

REMARKS

Claims 1, 16, 17, and 19 have been amended. Claims 1 through 19 remain in the application.

Claim 18 has been allowed.

Claims 16 and 17 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Accordingly, claims 16 and 17 have been amended and rewritten in independent form to include the limitations of the base claim and any necessary supporting intervening claims. It is respectfully submitted that claims 16 and 17 are in a condition for allowance, which allowance is solicited.

Claims 1 through 15 and 19 were rejected under 35 U.S.C. § 102(b) as being fully met by Stich (U.S. Patent No. 4,364,295). Claims 1 through 15 and 19 were rejected under 35 U.S.C. § 102(b) as being fully met by Frank-Braun (U.S. Patent No. 5,610,357). Claims 1 through 8, 10 through 15, and 19 were rejected under 35 U.S.C. § 102(b) as being fully met by Riboloff (U.S. Patent No. 5,792,973). Claims 1 through 8, 10 through 15, and 19 were rejected under 35 U.S.C. § 102(b) as being fully met by Knapp (U.S. Patent No. 5,292,998). Claims 1 through 8, 10 through 15, and 19 were rejected under 35 U.S.C. § 102(b) as being fully met by Nakamura (U.S. Patent No. 5,189,241). Claims 1 through 8, 10 through 15, and 19 were rejected under 35 U.S.C. § 102(b) as being fully met by Lace, Jr. (U.S. Patent No. 4,809,578). Applicant respectfully traverses all of these rejections.

U.S. Patent No. 4,364,295 to Stich discloses a musical instrument sound pickup and method of assembly thereof. A conventional mounting ring or frame 10 is formed of molded plastic with the sound pickup components being supported from the mounting frame 10 by threaded screw members 12 extending downwardly through openings in the frame 10 and

threadably received in end lugs 14 on opposite ends of a hollow open-topped housing 16 with compression springs 18 urging the assembly downwardly. The components of the open-topped housing 16 include a bottom bed plate 20, end walls 22 and side walls 24. A base plate 26 is positioned inside the open-topped housing 16. First and second parallel slots 32 and 34 extend all the way through the base plate 26 with side flanges 36 and 38 defining the side edges of base plate 26. First and second elongated coil core blades 40 and 42 respectively have upwardly bowed upper surfaces 44 and 46 and lower edges 48 and 50 which are frictionally matingly fitted in the slots 32 and 34 respectively of the base plate 26. Stich does not disclose at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument.

U.S. Patent No. 5,610,357 to Frank-Braun discloses a stringed musical instrument pickup with two electromagnetic coil assemblies having toothed cores. The pickup 12 includes a first coil and core section 24, a second coil and core section 26, a permanent magnet means 28, a plastic housing 30, and plastic potting material 32. The first coil and core section 24 includes a core, made of steel or other ferromagnetic material, in the form of a blade 34 having a lower portion consisting of a horizontally extending strip 36 and an upper portion consisting of a plurality of teeth 38 extending upwardly from the strip 36. The second coil and core section 26 includes a core, made of steel or other ferromagnetic material, in the form of a blade 44 having an upper portion consisting of a horizontally extending strip 46 and a lower portion consisting of a plurality of teeth 48 extending downwardly from the strip 46. The actual construction of the permanent magnet means 28 may vary, but as shown in FIGS. 4, 7 and 9, it includes a permanent magnet 54 in the shape of a rectangular bar having side faces of opposite magnetic polarity, and an iron bar 56. One side face of the magnet 54 engages the lower portion of the second blade 44, the other side face of the magnet engages one side face of the iron bar 56 and the other side face of the iron bar 56 engages the lower portion of the first blade 34. Frank-Braun does not disclose

at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument.

U.S. Patent No. 5,792,973 to Riboloff discloses a pickup for a stringed musical instrument. The pickup 10 or pickup 12 or both, includes one or more electrical conductors suitable to conduct an electrical signal generated in response to movement of at least one of the strings 4 of the musical instrument 2 when the pickup of the present invention is connected to the body of the musical instrument. In the implementation of FIGS. 2 and 3, there are two such electrical conductors 14a, 14b wound around respective coil forms 16a, 16b to define coils or windings of the pickup. Each of the coil forms 16 is made of a suitable material known in the art (e.g., plastic), and each has a respective axial slot 18 which receives one or more pole pieces. In the implementation of FIGS. 2 and 3, there is one pole piece 20 for each slot 18 (i.e., pole piece 20a for slot 18a, and pole piece 20b for slot 18b). Each pole piece 20 has a substantially rectangular shape with retaining ears or protuberances extending therefrom as shown in FIG. 2. Each pole piece 20 is received in a respective one of the slots 18 such that the lower (as oriented in FIG. 2) edge can contact a body adjacent the lower side of the respective coil or winding. Each pole piece 20 also has an upper edge disposed such that it can contact an object adjacent the upper side of the coil or winding. Riboloff does not disclose at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument.

U.S. Patent No. 5,292,998 to Knapp discloses an electronic guitar equipped with asymmetrical humbucking electromagnetic pickup. An asymmetric humbucking electromagnetic pickup 29 is embedded into a solid body 21 of an electric guitar, and is located under strings 28 between a tremolo unit 27 and a neck 22 of the electric guitar. The asymmetric humbucking electromagnetic pickup 29 includes first and second coil unit 29a and 29b associated with a permanent magnetic member 29c. The first coil unit 29a has a first core member 29d held in

contact with the permanent magnetic member 29c and a first coil 29e wound on the first core member 29d. Similarly, the second coil unit 29b has a second core member 29f held in contact with the permanent magnetic member 29c and a second coil 29g wound on the second core member 29f. The first and second core members 29d and 29f are shaped into comb configuration. Knapp does not disclose at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument.

U.S. Patent No. 5,189,241 to Nakamura discloses a pickup apparatus for detecting string vibration free from external inductive noise. A pickup device 10 includes a casing 13, an electromagnetic pickup 17 and a printed circuit board 18 located under the pickup 17. The pickup 17 includes a bobbin 20, a magnet arranged in the center of the bobbin 20 and a coil 22 wound on the bobbin 20. Nakamura does not disclose at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument.

U.S. Patent No. 4,809,578 to Lace, Jr. discloses magnetic field shaping in an acoustic pick up assembly. The pick-up assembly 10 includes a ferromagnetic channel 11 having a center surface 12 between orthogonal, parallel side surfaces 13 and 14. Each of the surfaces 12, 13 and 14 on the interior thereof includes permanent magnetic strips 22, 23 and 24, respectively. Coil structure 25 is fixed within this common polarity interior. The coil structure 25 includes an elongate ferromagnetic frame of two channel pieces 26 and 27 fixed back to back to each other across insulating spacers 28 within a gap defined therebetween. Lace does not disclose at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument.

A rejection grounded on anticipation under 35 U.S.C. § 102 is proper only where the subject matter claimed is identically disclosed or described in a reference. In other words,

anticipation requires the presence of a single prior art reference which discloses each and every element of the claimed invention arranged as in the claim. In re Arkley, 455 F.2d 586, 172 U.S.P.Q. 524 (C.C.P.A. 1972); Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983); Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 U.S.P.Q. 481 (Fed. Cir. 1984).

In contradistinction, claim 1, as amended, claims the present invention as a sensor assembly for a stringed musical instrument having a plurality of movable strings including at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument. The sensor assembly also includes at least one magnet disposed adjacent the at least one blade to generate a magnetic field through the at least one blade. The sensor assembly includes a primary winding disposed adjacent the at least one blade to create a primary current from a disruption in the magnetic field by the movable strings, the primary current creating a primary electromagnetic flux. The sensor assembly further includes at least one secondary winding spaced from the primary winding and being magnetically coupled to the primary winding, the at least one secondary winding transforming the primary electromagnetic flux into a secondary current adapted to pass out the stringed musical instrument. Claim 19 has been amended similar to claim 1 and includes other features of the present invention.

None of the references cited disclose or anticipate the claimed invention of claims 1 and 19. Specifically, Stich '295 merely discloses a musical instrument sound pickup and method of assembly thereof having first and second elongated coil core blades with upwardly bowed upper surfaces and lower edges which are frictionally matingly fitted in slots of a base plate. Stich '295 lacks at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument. Frank-Braun '357 merely discloses a stringed musical instrument pickup


with two electromagnetic coil assemblies having toothed cores in which first coil and core section includes a core in the form of a blade having an upper portion consisting of a plurality of teeth and a second coil and core section includes a core in the form of a blade having a lower portion consisting of a plurality of teeth. Frank-Braun '357 lacks at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument. Riboloff '973 merely discloses a pickup for a stringed musical instrument having coil forms with an axial slot which receives one or more pole pieces. Riboloff '973 lacks at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument. Nakamura '241 merely discloses a pickup having a bobbin, a magnet in the bobbin and a single coil wound on the bobbin. Nakamura '241 lacks at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument. Lace, Jr. '578 merely discloses a pick up assembly having at least one magnet generating a magnetic field adjacent the strings and a coil adjacent the magnet. Lace, Jr. '578 lacks at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument.

Each of the references fails to disclose the combination of a sensor assembly for a stringed musical instrument including at least one blade adapted to be disposed below the movable strings and adapted to be either one of disposed at an end of a neck and disposed in the neck of the stringed musical instrument, at least one magnet disposed adjacent the at least one blade to generate a magnetic field through the at least one blade, a primary winding disposed adjacent the at least one blade to create a primary current from a disruption in the magnetic field by the movable strings, and at least one secondary winding spaced from the primary winding and being magnetically coupled to the primary winding as claimed by Applicant. Each of the references

fails to anticipate the claimed invention. Therefore, it is respectfully submitted that claims 1 and 19 and the claims dependent therefrom are allowable over all of the rejections under 35 U.S.C. § 102(b).

Based on the above, it is respectfully submitted that the claims are in a condition for allowance, which allowance is solicited.

Respectfully submitted,

By: 
Daniel H. Bliss
Reg. No. 32,398

BLISS McGLYNN, P.C.
2075 West Big Beaver Road, Suite 600
Troy, Michigan 48084
(248) 649-6090

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